



## Complete Summary

### TITLE

Perioperative care: percentage of surgical patients aged 18 years and older undergoing procedures with the indications for a first or second generation cephalosporin prophylactic antibiotic who had an order for cefazolin or cefuroxime for antimicrobial prophylaxis.

### SOURCE(S)

American College of Surgeons, Physician Consortium for Performance Improvement®, National Committee for Quality Assurance. Perioperative care physician performance measurement set. Chicago (IL): American Medical Association, National Committee for Quality Assurance; 2006 Oct. 11 p. [8 references]

## Measure Domain

### PRIMARY MEASURE DOMAIN

Process

The validity of measures depends on how they are built. By examining the key building blocks of a measure, you can assess its validity for your purpose. For more information, visit the [Measure Validity](#) page.

### SECONDARY MEASURE DOMAIN

Does not apply to this measure

## Brief Abstract

### DESCRIPTION

This measure is used to assess the percentage of surgical patients aged 18 years and older undergoing procedures with the indications for a first or second generation cephalosporin prophylactic antibiotic who had an order for cefazolin or cefuroxime for antimicrobial prophylaxis.

### RATIONALE

Current published evidence supports the use of either cefazolin, a first generation cephalosporin, or cefuroxime, a second generation cephalosporin, for many surgical procedures, in the absence of Beta-lactam allergy. An alternative

antimicrobial regimen may be appropriate depending on the antimicrobial susceptibility pattern in an individual institution (potentially a medical reason for excluding patients treated at that institution from this measure).\*

\*The following clinical recommendation statements are quoted verbatim from the referenced clinical guidelines and represent the evidence base for the measure:

For most procedures, cefazolin should be the agent of choice because of its relatively long duration of action, its effectiveness against the organisms most commonly encountered in surgery, and its relatively low cost. (American Society of Health-System Pharmacists [ASHP])

In operations for which cephalosporins represent appropriate prophylaxis, alternative antimicrobials should be provided to those with a high likelihood of serious adverse reaction or allergy on the basis of patient history or diagnostic tests such as skin testing.

The preferred antimicrobials for prophylaxis in patients undergoing hip or knee arthroplasty are cefazolin and cefuroxime. Vancomycin or clindamycin may be used in patients with serious allergy or adverse reactions to Beta-lactams.

The recommended antimicrobials for cardiothoracic and vascular operations include cefazolin or cefuroxime. For patients with serious allergy or adverse reaction to Beta-lactams, vancomycin is appropriate, and clindamycin may be an acceptable alternative. (Surgical Infection Prevention Guidelines Writers Workgroup [SIPGWW])

## **PRIMARY CLINICAL COMPONENT**

Perioperative care; cephalosporin prophylactic antibiotic; cefazolin; cefuroxime

## **DENOMINATOR DESCRIPTION**

All surgical patients aged 18 years and older undergoing procedures with the indications for a first OR second generation cephalosporin prophylactic antibiotic (see the related "Denominator Inclusions/Exclusions" field in the Complete Summary)

## **NUMERATOR DESCRIPTION**

Surgical patients who had an order for cefazolin OR cefuroxime for antimicrobial prophylaxis (see the related "Numerator Inclusions/Exclusions" field in the Complete Summary)

## **Evidence Supporting the Measure**

### **EVIDENCE SUPPORTING THE CRITERION OF QUALITY**

- A clinical practice guideline or other peer-reviewed synthesis of the clinical evidence

## **Evidence Supporting Need for the Measure**

### **NEED FOR THE MEASURE**

Use of this measure to improve performance  
Variation in quality for the performance measured

## **EVIDENCE SUPPORTING NEED FOR THE MEASURE**

Agency for Healthcare Research and Quality (AHRQ). Making health care safer. A critical analysis of patient safety issues [AHRQ Publication No. 01-E058]. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2001 Jul. 672 p.(Evidence report /technology assessment; no. 43).

Bratzler DW, Houck PM, Richards C, Steele L, Dellinger EP, Fry DE, Wright C, Ma A, Carr K, Red L. Use of antimicrobial prophylaxis for major surgery: baseline results from the national surgical infection prevention project. Arch Surg 2005 Feb;140(2):174-82. [PubMed](#)

Leatherman S, McCarthy D. Quality of health care for medicare beneficiaries: a chartbook. Focusing on the elderly living in the community. Vol. 815 New York (NY): Commonwealth Fund; 2005 May. 184 p.

## **State of Use of the Measure**

### **STATE OF USE**

Current routine use

### **CURRENT USE**

Internal quality improvement  
National reporting

## **Application of Measure in its Current Use**

### **CARE SETTING**

Hospitals

### **PROFESSIONALS RESPONSIBLE FOR HEALTH CARE**

Physicians

### **LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED**

Individual Clinicians

### **TARGET POPULATION AGE**

Age greater than or equal to 18 years

### **TARGET POPULATION GENDER**

Either male or female

## **STRATIFICATION BY VULNERABLE POPULATIONS**

Unspecified

### **Characteristics of the Primary Clinical Component**

#### **INCIDENCE/PREVALENCE**

Unspecified

#### **ASSOCIATION WITH VULNERABLE POPULATIONS**

Unspecified

#### **BURDEN OF ILLNESS**

Unspecified

#### **UTILIZATION**

Unspecified

#### **COSTS**

Unspecified

### **Institute of Medicine National Healthcare Quality Report Categories**

#### **IOM CARE NEED**

Getting Better

#### **IOM DOMAIN**

Effectiveness

### **Data Collection for the Measure**

#### **CASE FINDING**

Users of care only

#### **DESCRIPTION OF CASE FINDING**

All surgical patients aged 18 years and older undergoing procedures with the indications for a first OR second generation cephalosporin prophylactic antibiotic

## **DENOMINATOR SAMPLING FRAME**

Patients associated with provider

## **DENOMINATOR INCLUSIONS/EXCLUSIONS**

### **Inclusions**

All surgical patients aged 18 years and older undergoing procedures with the indications for a first OR second generation cephalosporin prophylactic antibiotic

### **Exclusions**

Documentation of medical reason(s) for not ordering cefazolin OR cefuroxime for antimicrobial prophylaxis

## **RELATIONSHIP OF DENOMINATOR TO NUMERATOR**

All cases in the denominator are equally eligible to appear in the numerator

## **DENOMINATOR (INDEX) EVENT**

Therapeutic Intervention

## **DENOMINATOR TIME WINDOW**

Time window is a single point in time

## **NUMERATOR INCLUSIONS/EXCLUSIONS**

### **Inclusions**

Surgical patients who had an order for cefazolin OR cefuroxime for antimicrobial prophylaxis

**Note:** There must be documentation of order (written order, verbal order, or standing order/protocol) for cefazolin OR cefuroxime for antimicrobial prophylaxis OR documentation that cefazolin OR cefuroxime was given.

### **Exclusions**

None

## **MEASURE RESULTS UNDER CONTROL OF HEALTH CARE PROFESSIONALS, ORGANIZATIONS AND/OR POLICYMAKERS**

The measure results are somewhat or substantially under the control of the health care professionals, organizations and/or policymakers to whom the measure applies.

## **NUMERATOR TIME WINDOW**

Encounter or point in time

**DATA SOURCE**

Administrative data  
Medical record

**LEVEL OF DETERMINATION OF QUALITY**

Individual Case

**PRE-EXISTING INSTRUMENT USED**

Unspecified

**Computation of the Measure****SCORING**

Rate

**INTERPRETATION OF SCORE**

Better quality is associated with a higher score

**ALLOWANCE FOR PATIENT FACTORS**

Unspecified

**STANDARD OF COMPARISON**

Internal time comparison

**Evaluation of Measure Properties****EXTENT OF MEASURE TESTING**

Unspecified

**Identifying Information****ORIGINAL TITLE**

Measure #3: selection of prophylactic antibiotic - first OR second generation cephalosporin.

**MEASURE COLLECTION**

[The Physician Consortium for Performance Improvement® Measurement Sets](#)

**MEASURE SET NAME**

[Perioperative Care Physician Performance Measurement Set](#)

**SUBMITTER**

American Medical Association on behalf of the American College of Surgeons, the National Committee for Quality Assurance, and the Physician Consortium for Performance Improvement®

**DEVELOPER**

American College of Surgeons  
National Committee for Quality Assurance  
Physician Consortium for Performance Improvement®

**FUNDING SOURCE(S)**

Unspecified

**COMPOSITION OF THE GROUP THAT DEVELOPED THE MEASURE**

Ronald A. Gabel, MD (*Co-Chair*); R. Scott Jones, MD, FACS (*Co-Chair*); Priscilla Arnold, MD; Raj Behal, MD, MPH; Dale W. Bratzler, DO, MPH; Quentin Clemens, MD; Charles Drueck, MD, FACC; Fred Edwards, MD; Lee A. Fleisher, MD, FACC; Alex Hannenberg, MD; Daniel L. Herr, MS, MD, FCCM; David Hunt, MD, FACS; Kay Jewell, MD; Rahul K. Khare, MD, FACS; Shukri F. Khuri, MD, MBA; Rick Leary, MD, MBA; Kenneth Moore, MD; Mark Morasch, MD; Stephen Novack, DO; Frank Opelka, MD; Laura Orvidas, MD; Tom Read, MD; Sam J.W. Romeo, MD, MBA; Jerry Shuster, MD; Carl A. Sirio, MD; Sandra Tunajek, CRNA, ND; Patrick Voight, RN, BSN, MSA, CNOR; William Wooden, MD

Julie Lewis, American College of Surgeons; Karen Richards, American College of Surgeons

Mark S. Antman, DDS, MBA, American Medical Association; Karen S. Kmetik, PhD, American Medical Association; Beth Tapper, MA, American Medical Association; Samantha Tierney, MPH, American Medical Association

Joachim Roski, PhD, MPH, National Committee for Quality Assurance

Tom Croghan, MD; Latousha Leslie, RN, MS, Mathematica Policy Research, Centers for Medicare & Medicaid Services; Sylvia Publ, MBA, RHIA, Mathematica Policy Research, Centers for Medicare & Medicaid Services; Michael Rapp, MD, Mathematica Policy Research, Centers for Medicare & Medicaid Services

Lisa Buczkowski, RN, MS, Joint Commission on Accreditation of Healthcare Organizations; Raquel Gabriel-Bennewitz, MS/MBA, BSN, RN, Joint Commission on Accreditation of Healthcare Organizations

Rebecca A. Kresowik, Facilitators; Timothy F. Kresowik, MD, Facilitator

## **FINANCIAL DISCLOSURES/OTHER POTENTIAL CONFLICTS OF INTEREST**

Conflicts, if any, are disclosed in accordance with the Physician Consortium for Performance Improvement® conflict of interest policy.

## **ENDORSER**

National Quality Forum

## **INCLUDED IN**

Ambulatory Care Quality Alliance  
Physician Quality Reporting Initiative

## **ADAPTATION**

This measure was harmonized to the extent possible to measures included in the Surgical Care Improvement Project (SCIP).

## **PARENT MEASURE**

Unspecified

## **RELEASE DATE**

2006 Oct

## **MEASURE STATUS**

This is the current release of the measure.

## **SOURCE(S)**

American College of Surgeons, Physician Consortium for Performance Improvement®, National Committee for Quality Assurance. Perioperative care physician performance measurement set. Chicago (IL): American Medical Association, National Committee for Quality Assurance; 2006 Oct. 11 p. [8 references]

## **MEASURE AVAILABILITY**

The individual measure, "Measure #3: Selection of Prophylactic Antibiotic - First OR Second Generation Cephalosporin," is published in the "Perioperative Care Physician Performance Measurement Set." This document and technical specifications are available in Portable Document Format (PDF) from the American Medical Association (AMA)-convened Physician Consortium for Performance Improvement® Web site: [www.physicianconsortium.org](http://www.physicianconsortium.org).

For further information, please contact AMA staff by e-mail at [cqi@ama-assn.org](mailto:cqi@ama-assn.org).



## **NQMC STATUS**

This NQMC summary was completed by ECRI Institute on September 13, 2007.  
The information was verified by the measure developer on October 26, 2007.

## **COPYRIGHT STATEMENT**

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